

REMARKS

Claims 2-10, 15-18, 21, 25-27, 30-38, 71 and 72 are currently pending. Claims 2-10, 15-18, 21, 25-27, 30-38, 71 and 72 stand rejected under 35 U.S.C. §103(a). The Applicants response to the Examiner's September 7 rejections was filed on October 15, 2010 and warrants further search by the Examiner.

The Applicants would like to remind the Examiner of the video tape that she viewed on January 5, 2009 during an Office Interview with the undersigned and, moreover, to refresh her memory as to the remarkable results that are made possible using the invention as claimed. On page 6 there are a series of image clips of a gait impaired patient showing typical imbalance disorders the invention solves. Three series of four image clips from the video are provided on page 7, *infra.*, showing a patient with imbalance issues walking with (center) or without (top and bottom) the claimed invention operative.

From left to right on page 6, the first image is a stance that documents a balanced gait. The body is essentially symmetrical and balanced. The subject's feet come off the floor and she moves with a "regular" pace. The subject's arms are relaxed and close to her side, and swing naturally when she takes a stride, almost in parallel with the axis. The positioning of the hips and legs shows a narrow stance.

The image of "Imbalance Sign 1" shows body asymmetry, i.e., a left off-balance). "Imbalance Sign 2" shows a corrective side step and arms in a protective, anti-fall position common with stop-stand-restart motion. "Imbalance Sign 3" shows a stumble step with the subject's arms in a more-pronounced protective

position. "Imbalance Sign 4" shows a shuffle walk that includes a shorter stride. The subject's hips and legs are in a wide stance. The subject's arms exhibit minimal swing and are in a more-pronounced protective posture. The subject's direction of travel has become skewed. Finally, "Imbalance Sign 5" shows a corrective cross-over step. The subject's arms are in a protection position that is wider than shown in Imbalance Sign 2, likely because the subject in Imbalance Sign 5 was not moving in a stop-stand-restart fashion.

Referring now to the images on page 6, the top and bottom series of three figures demonstrate the advantages of the invention as claimed using a blind-folded subject who is an at-risk faller. The device is OFF in the top series and bottom series and ON in the middle series. The series are clips in the process of a walk of 20 feet.

When the device is OFF (top series), after about five feet, the subject moves in a shuffling gait characterized by a wide gait stance and arms positioned in a protective posture. After about ten feet, the subject begins to drift to the right. The length of the subject's gait or stride has shortened and the subject's arms continue to be positioned in a protective posture. Finally, after about 20 feet, the subject's drift to the right is more pronounced. The distance traveled takes about 12 seconds and 24 steps to negotiate.

When the device is OFF again (bottom series), after about five feet, the subject moves in an irregular, stop-stand, restart gait characterized by arms positioned in a protective posture. After about ten feet, the subject has experienced a cross-over/stumble step(s) and begins to drift to the left. The

subject's arms continue to be positioned in a protective posture. Finally, after about 20 feet, the subject's drift to the left is more pronounced. The distance traveled takes about 12 seconds and 22 steps to negotiate.

In contrast, when the device is ON (middle series), after about five feet, the subject moves with a smooth, normal gait characterized by a narrow gait stance and arms swinging in a relaxed manner. After about ten feet, the subject continues to travel in a straight line and continues to walk with a smooth, normal gait characterized by a narrow gait stance and arms swinging in a relaxed manner. Finally, after about 20 feet, the subject's heading is perfect. The distance traveled takes only about 9 seconds and 16 steps to negotiate, which is a 25 percent reduction in time and a 33% reduction in the number of steps (i.e., effort) from the series with the device of the invention OFF. This demonstrates the highly effective results of the invention in gait control that distinguishes it from the art.

Application No. 10/511,023
Filed: October 8, 2004
TC Art Unit: 3736
Confirmation No.: 8760

The Examiner is encouraged to telephone the undersigned attorney to discuss any matter that would expedite allowance of the present application.

Respectfully submitted,

LARS I.E. ODDSSON ET AL.

Dated: December 17, 2010

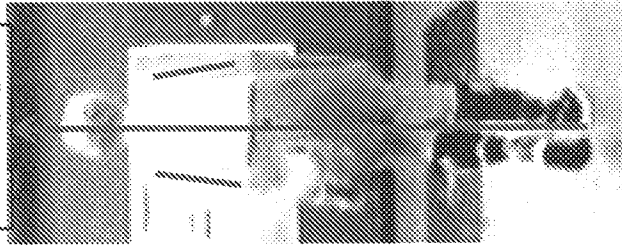
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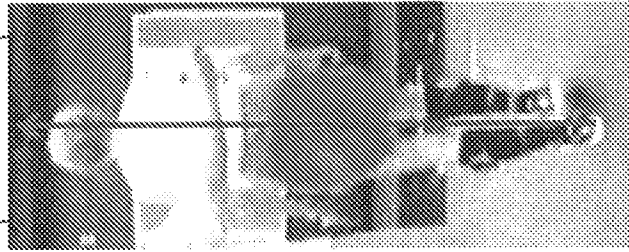
Common signs of clinical gait imbalance

Balanced healthy gait



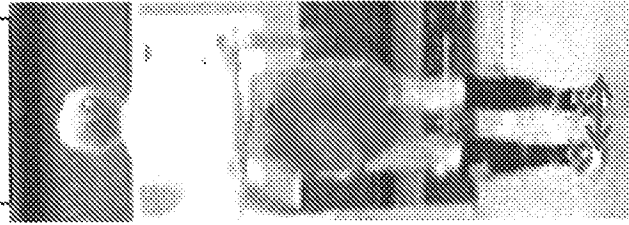
- Symmetrical
- Balanced
- Distinct foot-off
- Clear swing
- Regular pace
- Narrow stance
- Arms relaxed

Imbalance Sign 1



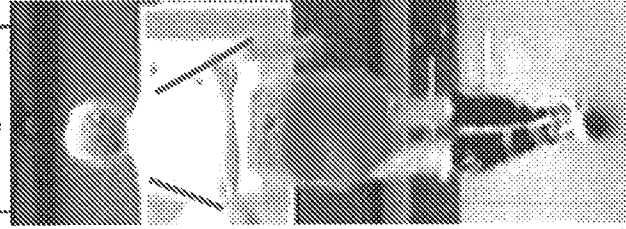
- Asymmetry
- Instability (left off-balance)

Imbalance Sign 2



- Stop-stand-restart
- Corrective side step
- Arms protective

Imbalance Sign 3



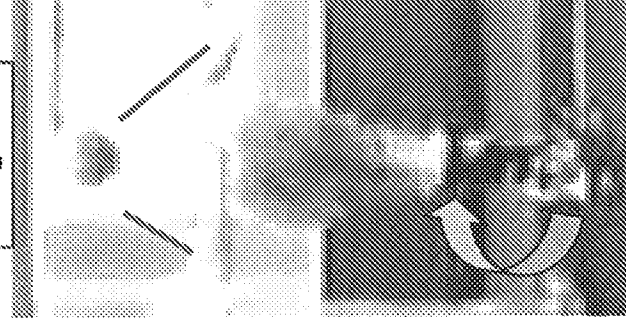
- "Stumble" step
- Arms protective

Imbalance Sign 4



- "Shuffle" walk
- Short steps
- Wide stance
- Heading off
- Minimal swing
- Arms protective

Imbalance Sign 5



- Corrective crossover step
- Arms protective

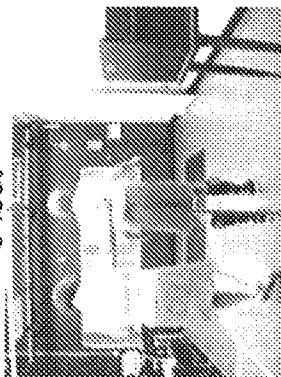
Effects on Gait Balance when walking with "Sensor Prosthetic for Improved Balance Control"

At-risk faller patient walking blindfolded, 20 feet, as straight as possible, at a comfortable, distinct pace

Start

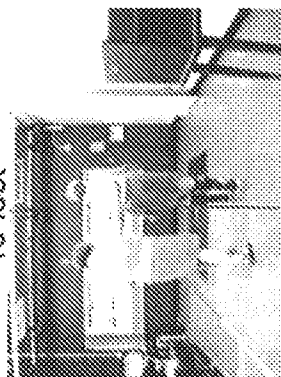
1. Patient walking
with Device turned
OFF

~5 feet



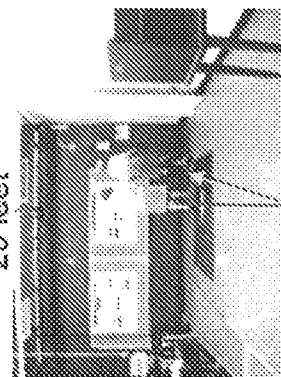
- Shuffling slow gait
- Wide gait stance
- Arms protective

~10 feet



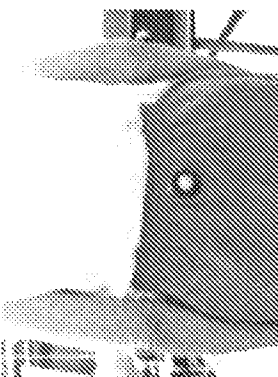
- Drift-off to the right
- Short steps
- Arms protective

~20 feet

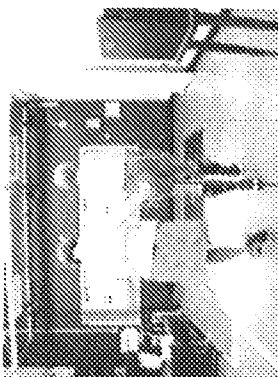


- Heading off to the right
- 24 steps (too many)
- 12 s (too slow)

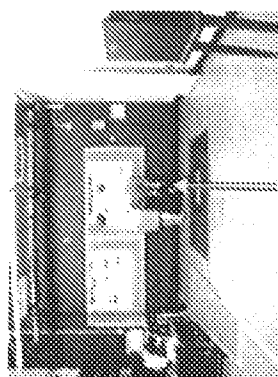
2. Patient walking
with Device turned
ON



- Smooth regular gait
- Narrow stance width
- Arms relaxed

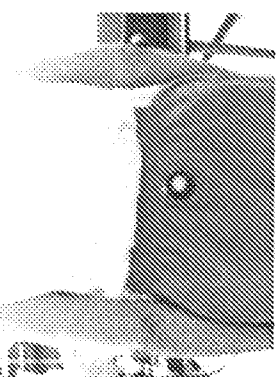


- Distinct single stance
- Narrow stance width
- Arms relaxed

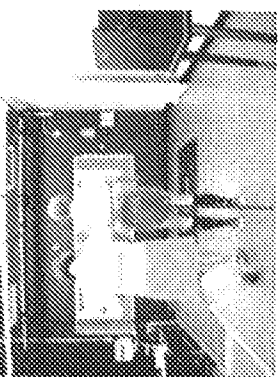


- Heading perfect
- 16 steps (normal stride)
- 9 s (normal speed)

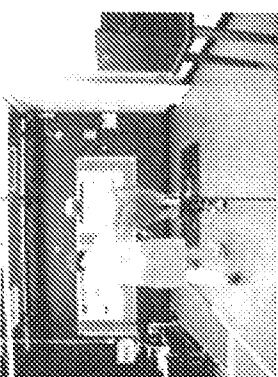
3. Patient walking
with Device turned
OFF



- Stop-stand-restart gait
- Irregular pace
- Arms protective



- Cross-over/stumble step
- Drift-off to the left
- Arms protective



- Heading off to the left
- 22 steps (too many)
- 12 s (too slow)